What is claimed is:

1. A liquid crystal display comprising:

a liquid crystal material sandwiched between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by X-R (where X represents an acrylate group or a methacrylate group and R represents an organic group having a steroid skeleton); and

an ultraviolet-cured substance comprising a system including the monomer material, formed at an interface of the substrates.

2. A liquid crystal display comprising:

a liquid crystal material sandwiched between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by X_1-R-X_2 (where X_1 and X_2 represent an acrylate group or a methacrylate group and R represents a divalent organic group having a steroid skeleton); and

an ultraviolet-cured substance comprising a system including the monomer material, formed at an interface of the substrates.

3. A liquid crystal display comprising:

a liquid crystal material sandwiched between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by X-R (where X represents an acrylate group or a methacrylate group and R represents an organic group having a steroid skeleton) and a monomer material having a structure expressed by X_1-R_1-X_2 (where X_1 and X_2 represent an acrylate group or a methacrylate group and R_1 represents a divalent organic group

having a steroid skeleton); and

an ultraviolet-cured substance comprising a system including the monomer materials, formed at an interface of the substrates.

4. A method of manufacturing a liquid crystal display comprising the steps of:

sandwiching a liquid crystal material between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by X-R (where X represents an acrylate group or a methacrylate group and R represents an organic group having a steroid skeleton); and

irradiating the liquid crystal material with ultraviolet rays to cure the monomer material, thereby forming an ultraviolet-cured substance at an interface of the substrate.

5. A method of manufacturing a liquid crystal display comprising the steps of:

sandwiching a liquid crystal material between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by X_1-R-X_2 (where X_1 and X_2 represent an acrylate group or a methacrylate group and R represents an organic group having a steroid skeleton) and

irradiating the liquid crystal material with ultraviolet rays to cure the monomer material, thereby forming an ultraviolet-cured substance at an interface of the substrate.

6. A method of manufacturing a liquid crystal display comprising the steps of:

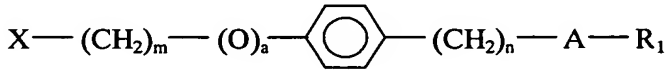
sandwiching a liquid crystal material between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by X-R (where X represents an acrylate group or a methacrylate group and R represents an organic group having a steroid skeleton) and a monomer material having a structure expressed by X_1-R_1-X_2 (where X_1 and X_2 represent an acrylate group or a methacrylate group and R_1 represents a divalent organic group having a steroid skeleton); and

irradiating the liquid crystal material with ultraviolet rays to cure the monomer materials, thereby forming an ultraviolet-cured substance at an interface of the substrate.

7. A method of manufacturing a liquid crystal display according to claim 4, wherein the liquid crystal material is mixed with a material with two or more functions which has at least one ring structure and an acrylate group or a methacrylate group at an end thereof.

8. A liquid crystal display comprising:

a liquid crystal material sandwiched between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by:



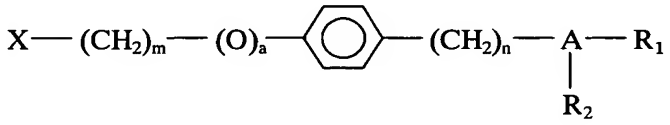
(where X represents an acrylate group or methacrylate group; A represents a benzene ring or cyclohexane ring; R_1 represents an alkyl group or alkoxy group having carbon atoms in a quantity in the range from 1 to 20; a represents 0 or 1; m represents an integral

number in the range from 0 to 10; and n represents an integral number in the range from 0 to 2); and

an ultraviolet-cured substance comprising a system including the monomer material, formed at an interface of the substrates.

9. A liquid crystal display comprising:

a liquid crystal material sandwiched between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by:

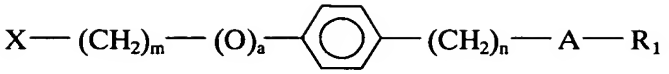


(where X represents an acrylate group or methacrylate group; A represents a benzene ring or cyclohexane ring; R_1 represents an alkyl group or alkoxy group having carbon atoms in a quantity in the range from 1 to 20; R_2 represents CH_3 or a fluorine atom; a represents 0 or 1; m represents an integral number in the range from 0 to 10; and n represents an integral number in the range from 0 to 2); and

an ultraviolet-cured substance comprising a system including the monomer material, formed at an interface of the substrates.

10. A method of manufacturing a liquid crystal display comprising the steps of:

sandwiching a liquid crystal material between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by:

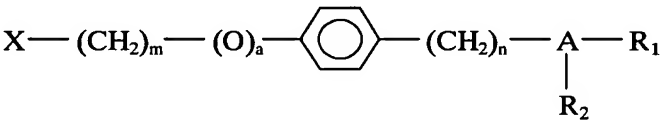


(where X represents an acrylate group or methacrylate group; A represents a benzene ring or cyclohexane ring; R_1 represents an alkyl group or alkoxy group having carbon atoms in a quantity in the range from 1 to 20; a represents 0 or 1; m represents an integral number in the range from 0 to 10; and n represents an integral number in the range from 0 to 2); and

irradiating the liquid crystal material with ultraviolet rays to cure the monomer materials, thereby forming an ultraviolet-cured substance at an interface of the substrate.

11. A method of manufacturing a liquid crystal display comprising the steps of:

sandwiching a liquid crystal material between substrates, wherein the liquid crystal material includes a monomer material having a structure expressed by:



(where X represents an acrylate group or methacrylate group; A represents a benzene ring or cyclohexane ring; R_1 represents an alkyl group or alkoxy group having carbon atoms in a quantity in the range from 1 to 20; R_2 represents CH_3 or a fluorine atom; a represents 0 or 1; m represents an integral number in the range from 0 to 10; and n represents an integral number in the range from 0 to 2); and

irradiating the liquid crystal material with ultraviolet rays

after being sandwiched between the substrates to cure the monomer materials, thereby forming an ultraviolet-cured substance at an interface of the substrate.

12. A method of manufacturing a liquid crystal display according to claim 10, wherein n = 0.

13. A method of manufacturing a liquid crystal display according to claim 10, wherein a = 0.

14. A method of manufacturing a liquid crystal display according to claim 10, wherein the sum of the number of carbon atoms of the group R_1 and the integral number m is in the range from 5 to 20.

15. A method of manufacturing a liquid crystal display according to claim 10, wherein the liquid crystal material is mixed with a material with two or more functions which has at least one ring structure and an acrylate group or a methacrylate group at an end thereof.

16. A liquid crystal display according to claim 1, wherein the liquid crystal material has negative dielectric constant anisotropy, the display comprising a structure for regulating alignment formed therein.

17. A method of manufacturing a liquid crystal display having an electrode formed at least on one substrate of a pair of substrates

for applying voltage to liquid crystal molecules, comprising the steps of:

sandwiching a liquid crystal material including a polymeric material which is a monomer, oligomer or polymer between substrates; and

irradiating the gap between the substrates with light including wavelength in the range from 300 nm to 400 nm to form an alignment control film.

18. A method of manufacturing a liquid crystal display according to claim 17, wherein the dose of irradiation at the time of formation of the alignment control film is in the range from 1 mJ/cm^2 to 30000 mJ/cm^2.

19. A method of manufacturing a liquid crystal display, comprising the steps of:

sandwiching a liquid crystal material including a polymeric material between substrates; and

performing scan-irradiation of the gap between the substrates to form an alignment control film.

20. A method of manufacturing a liquid crystal display according to claim 17, wherein multi-step irradiation is performed with the intensity of irradiation varied at the time of formation of the alignment control film.

21. A method of manufacturing a liquid crystal display according to claim 17, wherein the intensity of light having a

wavelength in the range from 200 nm to 330 nm is in the range from 0 to 20 % of the intensity of light having a wavelength in the range from 200 nm to 800 nm at the time of formation of the alignment control film.

22. A method of manufacturing a liquid crystal display according to claim 17, comprising the step of performing a plasma process or UV process as a surface modifying process on a surface of at least either of the substrates before the liquid crystal material is injected.

23. A method of manufacturing a liquid crystal display according to claim 17, comprising the step of applying a voltage to an electrode formed on the substrates or heating the substrates when the liquid crystal material is injected between the substrates, thereby preventing the polymeric material from being absorbed onto the surface of the substrates.

24. A method of manufacturing a liquid crystal display according to claim 17, comprising the step of providing a horizontally aligning spacer between the substrates.

25. A method of manufacturing a liquid crystal display according to claim 25, wherein the surface tension of the horizontally aligning spacer is 40 dyn/cm or more.

26. A method of manufacturing a liquid crystal display according to claim 17, wherein a visible light sealing material

is used.

27. A method of manufacturing a liquid crystal display according to claim 17, comprising the step of performing a process of pressing the substrate before or after the irradiation with light.

28. A liquid crystal display comprising:

a liquid crystal material sealed between a pair of substrates;

wherein the liquid crystal material comprises fluorine type liquid crystals having negative dielectric constant anisotropy and an alignment assisting material for vertically aligning liquid crystal molecules;

the alignment assisting material comprises a monofunctional monomer and a multifunctional monomer of acrylic resin, acrylate or methacrylate in a mixing ratio by weight in the range from 15:1 to 5:1, and a polymerization initiator which is in a mixing ratio of 2 % or less by weight to the total amount of the monofunctional monomer and the multifunctional monomer; and

the mixing ratio by weight between the liquid crystal material and the alignment assisting material is in the range from 99:1 to 90:10.

29. A liquid crystal display according to claim 28, wherein the alignment assisting material has photo-curing properties.

30. A liquid crystal display according to claim 29, wherein the alignment assisting material is cured by light having a wavelength of about 365 nm with an irradiation energy in the range from 6 J/cm^2

to 50 J/cm^2.

31. A liquid crystal display according to claim 29, wherein the alignment assisting material is cured by intensity of 30 mW/cm^2 or less at least at the beginning of irradiation.

32. A liquid crystal display according to claim 28, wherein the monofunctional monomer is liquid at the room temperature and under the pressure of the atmosphere.

33. A liquid crystal display according to claim 28, wherein the purity of the monofunctional monomer and the multifunctional monomer is 98.5 % or more.

34. A liquid crystal display according to claim 28, wherein the amount of the polymerization initiator is 0 %.

35. A liquid crystal display according to one of claims 28 to 34, wherein an unreacted residue of the monofunctional monomer exists in the mixed liquid crystal, and an unreacted residue of the multifunctional monomer and the polymerization initiator is 10 % or less.

36. A liquid crystal display according to claim 35, wherein the ratio of unreacted part of the monofunctional monomer is 50 % or less.

37. A liquid crystal display according to one of claims 28

to 36, wherein either of the pair of substrates has an active element and a color filter layer, and the other substrate is formed with no light-blocking member in a display area thereof.

38. A liquid crystal display according to claim 37, wherein the other substrate constitutes a surface irradiated with light for curing the alignment assisting material.

39. A liquid crystal display according to one of claims 28 to 38, wherein the polymerization initiator exhibits light-absorbing properties in the region of visible light.

40. A liquid crystal display according to one of claims 28 to 39, wherein the mixed liquid crystal is injected using a dispenser injection method, and no liquid crystal injection hole is provided on a seal material for sealing the mixed liquid crystal between the pair of substrates.

41. A method of manufacturing a liquid crystal display comprising the steps of:

sealing a liquid crystal material between a pair of substrates;

wherein the liquid crystal material comprises fluorine type liquid crystals having negative dielectric constant anisotropy and an alignment assisting material for vertically aligning liquid crystal molecules;

the alignment assisting material comprises a monofunctional monomer and a multifunctional monomer of acrylic resin, acrylate

or methacrylate in a mixing ratio by weight in the range from 15:1 to 5:1, and a polymerization initiator which is in a mixing ratio of 2 % or less by weight to the total amount of the monofunctional monomer and the multifunctional monomer;

the mixing ratio by weight between the liquid crystal material and the alignment assisting material is in the range from 99:1 to 90:10; and

curing the alignment assisting material at an interface of the substrates to align the liquid crystal molecules vertically.

42. A method of manufacturing a liquid crystal display according to claim 41, wherein the mixed liquid crystal is injected using a dispenser injection method.

43. A method of manufacturing a liquid crystal display according to claim 40 or 42, wherein the mixed liquid crystal dispensed using the dispenser injection method comprises different materials which are used depending on dispensing positions on the substrates.

44. A method of manufacturing a liquid crystal display according to claim 43, wherein the dispensed mixed liquid crystal is prepared by dispensing, in combination, at least two among the liquid crystal material alone including no alignment assisting material, a liquid crystal which is a mixture of the liquid crystal material and the monofunctional monomer, a liquid crystal which is a mixture of the liquid crystal material and the bifunctional monomer, a liquid crystal which is a mixture of the liquid crystal

material, the monofunctional monomer, and the bifunctional monomer and a liquid crystal which is a mixture of the liquid crystal material and the polymerization initiator.

45. A liquid crystal display comprising:

a chiral nematic liquid crystal having negative dielectric constant anisotropy sealed between a pair of substrates; and

an alignment control section formed by irradiating a monomer, oligomer or polymer having at least one kind of functional group mixed in a liquid crystal layer with an electromagnetic wave and causing a reaction of the same such that the longitudinal direction of liquid crystal molecules becomes substantially perpendicular to either of the substrates when no voltage is applied.

46. A liquid crystal display according to claim 45, wherein a reflective electrode is formed on either of the pair of substrates, and operation as a reflection type or a transflective type is possible.

47. A liquid crystal display according to claim 45, wherein either linear polarizer or circular polarizer is provided on both of the pair of substrates or wherein the linear polarizer is provided on either of the substrates and the circular polarizer is provided on the other.

48. A liquid crystal display according to claim 45, wherein at least any one of three sub-pixels in which any of color filters in R, G and B is formed is different from others in the cell thickness.

49. A liquid crystal display according to claim 45, wherein the product Δnd of birefringence Δn of the liquid crystal and the thickness d of the liquid crystal layer is in the range from 150 nm to 500 nm.